1 GLOSSARY

2 **Accessible Area** is an area that can be easily reached or obtained. In many cases an area must be
3 physically accessible to perform a measurement. However, radioactivity may be measurable
4 even if an area is not physically accessible. See in this glossary *measurable radioactivity*.

5 **Action Level** is the numerical value that causes a decision maker to choose one of the alternative
6 actions. In the context of MARSAME, the numerical value is the radionuclide concentration or
7 level of radioactivity corresponding to the disposition criterion, and the alternative actions are
8 determined by the selection of a disposition option.

9 **Alternative Action** is the choice between two mutually exclusive possibilities. See in this
10 glossary *decision rule*.

11 **Ambient Radiation** is radiation that is currently present in the surrounding area. Ambient
12 radiation may include natural background, instrument background, intrinsic radiation from
13 surrounding materials, intrinsic radiation from the item(s) being measured, contamination, or
14 radiation from nearby machines (e.g., x-ray machines when operating) depending on the local
15 conditions. Ambient radiation changes with location.

16 **Background Radiation** (as defined in Nuclear Regulatory Commission regulations) is radiation
17 from cosmic sources; naturally occurring radioactive material including radon (except as a decay
18 product of source or special nuclear material); and global fallout as it exists in the environment
19 from the testing of nuclear explosive devices or from past nuclear accidents such as Chernobyl
20 that contribute to background radiation and are not under the control of the licensee.
21 "Background radiation" does not include radiation from source, byproduct or special nuclear
22 materials regulated by the Nuclear Regulatory Commission (10 CFR 20.1003).

23 **Biased Measurements** are measurements performed at locations selected using professional
24 judgment based on unusual appearance, location relative to known contamination areas, high
25 potential for residual radioactivity, and general supplemental information. Biased measurements
26 are not included in the statistical evaluation of survey unit data because they violate the
27 assumption of randomly selected, independent measurements. Instead, biased measurement
28 results are individually compared to the action levels. Biased measurements are also called
29 judgment measurements (MARSSIM 2002).

30 **Calibration Function** is the function that relates the net instrument signal to activity (e.g.,
31 relates counts to disintegrations or radiations).

32 **Categorization** is the act of determining whether M&E are impacted or non-impacted. This is a
33 departure from MARSSIM where this decision was included in the definition of classification.

34 **Class 1** M&E are impacted M&E that have, or had, the following: (1) highest potential for, or
35 known, radionuclide concentration(s) or radioactivity above the action level(s); (2) highest
36 potential for small areas of elevated radionuclide concentration(s) or radioactivity; and (3)
37 insufficient evidence to support reclassification as Class 2 or Class 3. Such potential may be
38 based on historical information and process knowledge, while known radionuclide
39 concentration(s) or radioactivity may be based on preliminary surveys. See in this glossary
40 *Class 2*, *Class 3*, *classification*, and *impacted*.

41 **Class 2** M&E are impacted M&E that have, or had, the following: (1) low potential for
42 radionuclide concentration(s) or radioactivity above the action level(s); and (2) little or no
43 potential for small areas of elevated radionuclide concentration(s) or radioactivity. Such
44 potential may be based on historical information, process knowledge, and preliminary surveys.
45 See in this glossary *Class 1*, *Class 3*, *classification*, and *impacted*.

46   **Class 3** M&E are impacted M&E that have, or had, the following: (1) little or no potential for

47   radionuclide concentrations(s) or radioactivity above background; and (2) insufficient evidence

48   to support categorization as non-impacted. See in this glossary *Class 1*, *Class 2*, *classification*,

49   *impacted*, and *non-impacted*.

50   **Classification** is the act or result of separating impacted M&E or survey units into one of three

51   designated classes: Class 1, Class 2, or Class 3. Classification is the process of determining the

52   appropriate level of survey effort based on estimates of activity levels and comparison to action

53   levels, where the activity estimates are provided by historical information, process knowledge,

54   and preliminary surveys. See in this glossary *Class 1*, *Class 2*, *Class 3*, and *impacted*.

55   **Clearance** is the removal of radiological regulatory controls from materials and equipment.

56   Clearance is a subset of release. See in this glossary *release*.

57   **Combined Standard Uncertainty** is the standard uncertainty of an output estimate calculated

58   by combining the standard uncertainties of the input estimates. The combined standard

59   uncertainty of *y* is denoted by $u_c(y)$. See also in this glossary *expanded uncertainty*, *input*

60   *estimate*, *measurement method uncertainty*, *output estimate*, and *standard uncertainty*.

61   **Combined Variance** is the square of the combined standard uncertainty. The combined

62   variance of *y* is denoted by $[u_c(y)]^2$. See in this glossary *combined standard uncertainty*.

63   **Concentration** is activity per unit volume (e.g., Bq/kg or pCi/g) or activity per unit area (e.g.,

64   Bq/m^2 or $dpm/100 \ cm^2$).

65   **Conceptual Model** is a description of a component or area to be surveyed and the associated

66   radionuclides or radioactivity expected to be present. The initial conceptual model is based on

67   the results of the initial assessment. Additional data is used to update the conceptual model

68   throughout the development, implementation, and assessment of the disposition survey. See in

69   this glossary *initial assessment*.

70 **Coverage Factor** (*k*) is the value multiplied by the combined standard uncertainty $u_c(y)$ to give

71 the expanded uncertainty, *U*. See in this glossary *combined standard uncertainty* and *expanded*

72 *uncertainty*.

73 **Coverage Probability** is the approximate probability that the reported uncertainty interval will

74 contain the value of the measurand. See in this glossary *level of confidence* and *measurand*.

75 **Critical Value** in the context of radiation detection is the minimum measured value (e.g., of the

76 instrument signal or the radionuclide concentration) required to give a specified probability that a

77 positive (nonzero) amount of radioactivity is present in the material being measured. The critical

78 value is the same as the critical level or decision level in publications by Currie (Currie 1968 and

79 NRC 1984).

80 **Critical Value** in the context of statistical testing is the value, which, if exceeded by the test

81 statistic, results in rejection of the null hypothesis. See in this glossary *null hypothesis*.

82 **Data Life Cycle** is the process of planning the survey, implementing the survey plan, and

83 assessing the survey results prior to making a decision (MARSSIM 2002).

84 **Data Quality Objectives (DQOs)** are qualitative and quantitative statements derived from the

85 DQO process that clarify study technical and quality objectives, define the appropriate type of

86 data, and specify tolerable levels of potential decision errors that will be used as the basis for

87 establishing the quality and quantity of data needed to support decisions (MARSSIM 2002).

88 **Data Quality Objectives Process** is a systematic strategic planning tool based on the scientific

89 method that identifies and defines the type, quality, and quantity of data needed to satisfy a

90 specific use (MARSSIM 2002). See also in this glossary *data quality objectives*.

91 **Data Quality Assessment (DQA)** is a scientific and statistical evaluation that determines

92 whether data are the right type, quality and quantity to support their intended use (EPA 2006b).

93   **Decision Rule** is a statement that describes a logical basis for choosing among alternative actions

94   (MARSSIM 2002). A theoretical decision rule is developed early in the planning process

95   assuming ideal data are available to support a disposition decision (see Chapter 3). An

96   operational decision rule is developed based on the measurements that will be performed as part

97   of the final disposition survey (see Chapter 4).

98   **Detection Capability** is a generic term describing the capability of a measurement process to

99   distinguish small amounts of radioactivity from zero. It may be expressed in terms of the

100   minimum detectable concentration. See in this glossary *minimum detectable concentration*.

101   **Difficult-to-Measure Radioactivity** is radioactivity that is not measurable until the M&E to be

102   surveyed is prepared. Preparation of M&E may be relatively simple (e.g., cleaning) or more

103   complicated (e.g., disassembly or complete destruction). Given sufficient resources, all

104   radioactivity can be made measurable; however, it is recognized that increased survey costs can

105   outweigh the benefit of some dispositions.

106   **Discrimination Limit** is the level of radioactivity selected by the members of the planning team

107   that can be reliably distinguished from the action level. The lower bound of the gray region

108   (LBGR) for Scenario A and the upper bound of the gray region (UBGR) for Scenario B are

109   examples of discrimination limits.

110   **Disposition** is the future use, fate, or final location for something.

111   **Disposition Decision** is the selection between alternative actions to determine acceptable future

112   use. In statistical decision making, when the null hypothesis is rejected based on the survey data

113   the decision maker is left with the alternative hypothesis. A failure to reject the null hypothesis

114   is not the same as demonstrating the null hypothesis is true. See in this glossary *null hypothesis*.

115   **Disposition Survey** is a radiological survey designed to collect information to support a

116   disposition decision.

117 **Distinguishable from Background** means that the detectable concentration of a radionuclide is
118 statistically different from the background concentration of that radionuclide in the vicinity of
119 the site or, in the case of structures, in similar materials using adequate measurement technology,
120 survey and statistical techniques (10 CFR 20.1003).

121 **Energy Resolution** is the quantifiable ability of a measurement method to distinguish between
122 radiations with different energies.

123 **Environmental Radioactivity** is radioactivity from the environment where the M&E are
124 located. Environmental radioactivity includes background radiation as well as inherent
125 radioactivity and radioactivity from nearby sources.

126 **Evaluation Function** is a mathematical expression that allows the user to compare options and
127 draw a conclusion or calculate a result.

128 **Expanded Uncertainty** is the product, U, of the combined standard uncertainty of a measured
129 value y and a coverage factor, k, chosen so that the interval from $y – U$ to $y + U$ has a desired
130 high probability of containing the value of the measurand. See in this glossary *combined*
131 *standard uncertainty*, *coverage factor*, and *measurand*.

132 **Fluence** is the number of photons or particles passing through a cross-sectional area. The
133 international standard (SI) unit for fluence is m^{-2}.

134 **Frequency Plot** is a chart plotting the number of data points against their measured values.

135 **Graded Approach** is the process of basing the level of application of managerial controls
136 applied to an item or work according to the intended use of the results and the degree of
137 confidence needed in the quality of the results. See in this glossary *data quality objectives*
138 *process*.

139 **Gray Region** is the range of radionuclide concentrations or quantities between the
140 discrimination limit and the action level. See in this glossary *action level*, *discrimination limit*,
141 *lower bound of the gray region*, and *upper bound of the gray region*.

142   **Hard Data** are quantitative data used to directly determine levels of radioactivity associated with
143   measurement results.

144   **Impacted** is a term applied to M&E that are not classified as non-impacted. M&E with a
145   reasonable potential to contain radionuclide concentration(s) or radioactivity above background
146   are considered impacted (10 CFR 50.2). See in this glossary *background radiation* and *non-*
147   *impacted*.

148   **Inherent Radioactivity** is radioactivity resulting from radionuclides that are an essential
149   constituent of the material being measured (e.g., ^{40}K in fertilizer containing potassium).

150   **Initial Assessment (IA)** is an investigation to collect existing information describing materials
151   and equipment and is similar to the Historical Site Assessment (HSA) described in MARSSIM.

152   **Input Quantity** is any of the quantities in a mathematical measurement model whose values are
153   measured and used to calculate the value of another quantity, called the output variable.

154   **Instrument Efficiency** is the ratio between the instrument net reading and the surface emission
155   rate of a source under given geometrical conditions (ISO 1988). For a given instrument, the
156   instrument efficiency depends on the energy of the radiations emitted by the source. See in this
157   glossary *source efficiency* and *total efficiency*.

158   **Interdiction** is the authoritative refusal to approve or assent to an action.

159   **Interdiction Survey** is the collection of data to support an interdiction decision regarding M&E.
160   In general, interdiction surveys are used to accept or refuse to accept control of M&E that is
161   potentially radioactive. In some cases an interdiction survey may result in the impoundment of
162   radioactive M&E that represent an unacceptable risk to human health or the environment.

163   **Interference** is the presence of other radiation or radioactivity that hinders the ability to analyze
164   for the radiation or radioactivity of interest.

165 **Intrinsic Radioactivity** is radioactivity resulting from radionuclides that are an essential

166 constituent of the material being measured (e.g., ^{40}K in fertilizer containing potassium).

167 **Level of Confidence** (*p*) is the approximate probability that the reported uncertainty interval will

168 contain the value of the measurand. See in this glossary *coverage probability* and *measurand*.

169 **Lower Bound of the Gray Region (LBGR)** is the radionuclide concentration or level of

170 radioactivity that corresponds with the lowest value from the range where decision errors are not

171 controlled for statistical hypothesis testing. For Scenario A the LBGR corresponds to the

172 discrimination limit. For Scenario B the LBGR corresponds to the action level. See in this

173 glossary *action level*, *discrimination limit*, *gray region*, *Scenario A*, and *Scenario B*.

174 **Mathematical Model** is the general characterization of a process, object, or concept in terms of

175 mathematics, which enables the relatively simple manipulation of variables to be accomplished

176 in order to determine how the process, object, or concept would behave in different situations.

177 **Materials and Equipment (M&E)** are items considered for disposition that include metals,

178 concrete, dispersible bulk materials, tools, equipment, piping, conduit, furniture, solids, liquids,

179 and gases in containers, etc. M&E are considered non-real property distinguishable from

180 buildings and land, which are considered real property. See in this glossary *disposition*.

181 **Measurand** is a particular quantity subject to measurement (ISO 1996).

182 **Measurement Method Uncertainty** is the parameter, associated with the result of a

183 measurement that characterizes the dispersion of the values that could reasonably be attributed to

184 the measurand (ISO 1996).

185 **Measurement Quality Objectives (MQOs)** are a statement of a performance objective or

186 requirement for a particular method performance characteristic (MARLAP 2004).

187 **Measurable Radioactivity** is radioactivity that can be quantified using known or predicted

188 relationships developed from historical information, process knowledge or preliminary

189 measurements as long as the relationships are developed, verified, and validated as specified in

190 the data quality objectives (DQOs) and measurement quality objectives (MQOs).

191 **Median** is the middle value of the data set when the number of data points is odd, or the average

192 of the two middle values when the number of data points is even.

193 **Minimum Detectable Activity** (MDA) is the minimum detectable value of activity for a

194 measurement. See in this glossary *minimum detectable value*.

195 **Minimum Detectable Concentration** (MDC) is the minimum detectable value of the

196 radionuclide or radioactivity concentration for a measurement. See in this glossary *minimum*

197 *detectable value*.

198 **Minimum Detectable Value** is an estimate of the smallest true value of the measurand that

199 ensures a specified high probability, $1 - \beta$, of detection. This definition presupposes that an

200 appropriate detection criterion has been specified (e.g., critical value). See in this glossary

201 *measurand* and *critical value*.

202 **Minimum Quantifiable Concentration (MQC)** is the smallest concentration or quantity of

203 radioactivity the measurement method will indicate within a specified relative standard

204 deviation.

205 **Non-impacted** is a term applied to M&E where there is no reasonable potential to contain

206 radionuclide concentration(s) or radioactivity above background (10 CFR 50.2). See in this

207 glossary *background radioactivity* and *impacted*.

208 **Null Hypothesis**, or baseline condition, is a tentative assumption about the true, but unknown,

209 radionuclide concentration or level of radioactivity that can be retained or rejected based on the

210 available evidence. When hypothesis testing is applied to disposition decisions, the data are used

211 to select between a presumed baseline condition (the null hypothesis) and an alternate condition

212   (the alternative hypothesis). The null hypothesis is retained until evidence demonstrates with a

213   previously specified probability that the baseline condition is false.

214   **Output Quantity** is the quantity in a mathematical measurement model whose value is

215   calculated from the measured values of other quantities in the model. See in this glossary *input*

216   *quantity*.

217   **Planning Team** is the group of people who perform the DQO process. Members include the

218   decision maker (senior manager), site manager, representatives of other data users, senior

219   program and technical staff, someone with statistical expertise, and a quality assurance and

220   quality control advisor (such as a QA manager) (EPA 2000a).

221   **Posting Plot** is a map of the survey unit with the data values entered at the measurement

222   locations. This type of plot potentially reveals heterogeneities in the data, especially possible

223   patches of elevated contamination.

224   **Preliminary Survey** is any survey performed prior to the disposition survey in MARSAME, and

225   is generally performed to provide information required to support the design of the final survey.

226   See also in this glossary *disposition survey*.

227   **Process Knowledge** is information concerning the characteristics, history of prior use, and

228   inherent radioactivity of the materials and equipment being considered for release. Process

229   knowledge is obtained through a review of the operations conducted in facilities or areas where

230   materials and equipment may have been located and the processes where the materials and

231   equipment were involved.

232   **Radioactive Materials** consist of any material, equipment or system component determined or

233   suspected to contain radionuclides in excess of inherent radioactivity. Radioactive material

234   includes activated material, sealed and unsealed sources, and substances that emit radiation. See

235   in this glossary *inherent radioactivity*.

236   **Radiological Controls** are any means, method or activity (including engineered or
237   administrative) designed to protect personnel or the environment from exposure to a radiological
238   risk.

239   **Radionuclides or Radiations of Concern** are radionuclides or radiations that are present at a
240   concentration or activity that poses an unacceptable risk to human health or the environment. In
241   MARSAME, the term radionuclides or radiations of concern is used to describe the radionuclides
242   or radiations that are actually measured during the disposition survey. See also in this glossary
243   *radionuclides or radiations of potential concern* and *disposition survey*.

244   **Radionuclides or Radiations of Potential Concern** are radionuclides or radiations that are
245   identified during the initial assessment as potentially being associated with the M&E being
246   investigated. See also in this glossary *initial assessment*.

247   **Ratemeter** is an instrument that indicates the counting rate of an electronic counter. In the
248   context of radiological measurements, a ratemeter displays the counting rate from a radiation
249   detector. The averaging time for calculating the rate is determined by the time constant of the
250   meter. See in this glossary *scaler*.

251   **Recycle** is beneficial reuse of constituent materials incorporated within the M&E. A hammer
252   that is melted down as scrap metal so the component metals can be reused is an example of
253   recycle.

254   **Reference Material** is material of similar physical, radiological, and chemical characteristics as
255   the M&E considered for disposition. Reference material provides information on the level of
256   radioactivity that would be present if the M&E being investigated had not been radiologically
257   impacted. See in this glossary *impacted*.

258   **Relative Standard Uncertainty** is the ratio of the standard uncertainty of a measured result to
259   the result itself. The relative standard uncertainty of x may be denoted by $u_r(x)$. See in this
260   glossary *standard uncertainty*.

261   **Release** is a reduction in the level of radiological control, or a transfer of control to another

262   party. Examples of release include clearance (i.e., unrestricted release of materials and

263   equipment to the public sector), recycle, reuse, disposal as waste, or transfer of control of

264   radioactive M&E from one authorized user to another. See also in this glossary *reuse*, *recycle*,

265   *restricted release*, and *clearance*.

266   **Release Survey** is a type of disposition survey designed to collect information to support a

267   release decision. See also in this glossary *disposition survey* and *release*.

268   **Restricted Release** is a reduction in the level of radiological control, or transfer of control to

269   another party, where restrictions are placed on how the released items will be used or transferred.

270   Maintaining a tool crib in a radiologically controlled area restricts reuse of those tools to that

271   radiologically controlled area, and tools returned to the tool crib represent a restricted release of

272   those tools.

273   **Reuse** is the continued use of M&E for their original purpose(s). An example of reuse is a

274   hammer that continues to be used as a hammer.

275   **Ruggedness** is the relative stability of a measurement technique's performance when small

276   variations in method parameter values are made.

277   **Scaler** is an electronic counter that displays the aggregate of a number of signals, which usually

278   occur too rapidly to be recorded individually. In the context of radiological measurements, a

279   scaler records the number of counts from a radiation detector over a specified time interval. See

280   in this glossary *ratemeter*.

281   **Scenario A** uses a null hypothesis that assumes the level of radioactivity associated with the

282   M&E exceeds the action level. Scenario A is sometimes referred to as "presumed not to

283   comply" or "presumed not clean."

284 **Scenario B** uses a null hypothesis that assumes the level of radioactivity associated with the
285 M&E is less than or equal to the action level. Scenario B is sometimes referred to as
286 "indistinguishable from background" or "presumed clean."

287 **Secular Equilibrium** is the condition in which the precursor radionuclide in a decay series has a
288 longer half-life than any subsequent members of the series. Secular equilibrium is achieved
289 when the activities for all members of the decay series are equal to the activity of the precursor
290 radionuclide.

291 **Segregation** is the process of separating or isolating from a main body or group. In the context
292 of disposition surveys, segregation is based on the physical and radiological attributes of the
293 M&E being investigated and is used to help control measurement method uncertainty.

294 **Sensitivity Coefficient** for an input estimate, x_i, used to calculate an output estimate,
295 $y=f(x_1, x_2, …, x_N)$, is the value of the partial derivative, $\partial f/\partial x_i$, evaluated at $i=x_1, x_2,…,x_N$. The
296 sensitivity coefficient represents the ratio of the change in y to a small change in x_i.

297 **Sentinel Measurement** is a biased measurement performed at a key location to provide
298 information specific to the objectives of the Initial Assessment (IA).

299 **Significance Level** is, in the context of a hypothesis test, a specified upper limit for the
300 probability of a Type I decision error.

301 **Sign Test** is a non-parametric statistical test used to evaluate disposition survey results if the
302 radionuclide being measured is not present in background, or is present at such a small fraction
303 of the action level as to be considered insignificant.

304 **Smear** is a non-quantitative test for the presence of removable radioactive materials in which the
305 suspected surface or area is wiped with a filter paper or other substance, which is then tested for
306 the presence of radioactivity. The surface area tested may be related to the release criterion.
307 Smear is also referred to as a smear test, swipe, or wipe.

308   **Soft data** are qualitative and/or quantitative data that do not directly determine levels of
309   radioactivity. Soft data provide information that is used to infer or deduce knowledge
310   concerning the levels of radioactivity in materials and equipment.

311   **Source Efficiency** is the ratio between the number of particles of a given type above a given
312   energy emerging from the front face of a source or its window per unit time and the number of
313   particles of the same type created or released within the source (for a thin source) or its
314   saturation layer thickness (for a thick source) per unit time (ISO 1988). See also in this glossary
315   *instrument efficiency* and *total efficiency*.

316   **Specific Activity** is the radioactivity per unit mass for a specified radionuclide.

317   **Specificity** is the ability of the measurement method to measure the radionuclide of concern in
318   the presence of interferences.

319   **Spectrometry** is a measurement across a range of energies. The measurement of alpha particles
320   by energy is called alpha spectrometry.

321   **Spectroscopy** is the measurement and analysis of electromagnetic spectra produced as the result
322   of the emission or absorption of energy by various substances. The measurement of gamma-ray
323   emissions from a substance is called gamma spectroscopy.

324   **Standard Operating Procedure (SOP)** is a written document that details the method for an
325   operation, analysis, or action with thoroughly prescribed techniques and steps, and that is
326   officially approved as the method for performing certain routine or repetitive tasks (MARSSIM
327   2002).

328   **Standard Uncertainty** is the uncertainty of a measured value expressed as an estimated standard
329   deviation, often called a "1-sigma" (1σ) uncertainty (MARLAP 2004). The standard uncertainty
330   of a value x is denoted by $u(x)$.

331 **Standardized Initial Assessment** is a set of instructions or questions that are used to perform
332 the initial assessment, usually documented in a standard operating procedure. See also in this
333 glossary *initial assessment* and *standard operating procedure*.

334 **Structures** are buildings or other objects constructed from several parts.

335 **Surficial Radioactive Material** is radioactive material distributed on any of the surfaces of a
336 solid object. Surficial radioactive material may be removable by non-destructive means (such as
337 casual contact, wiping, brushing, or washing) or fixed.

338 **Surrogate Measurement** is a measurement where one radionuclide is quantified and used to
339 demonstrate compliance with the release criterion for additional radionuclide(s) based on known
340 or accepted relationships between the measured radionuclide and unmeasured radionuclides.

341 **Survey Unit** for M&E is the specific lot, amount, or piece of equipment on which measurements
342 are made to support a disposition decision concerning the same specific lot, amount, or piece of
343 equipment.

344 **Total Efficiency** is the product of the instrument efficiency and the source efficiency. See in
345 this glossary *instrument efficiency* and *source efficiency*.

346 **Type I Decision Error** occurs when the null hypothesis is rejected when it is actually true. The
347 Type I decision error rate, or significance level, is represented by α. See in this glossary *null*
348 *hypothesis* and *significance level*.

349 **Type II Decision Error** occurs when the null hypothesis is not rejected when it is actually false.
350 The Type II decision error rate is denoted by β. See in this glossary *null hypothesis*.

351 **Unrestricted Release** is the removal of radiological regulatory controls from materials and
352 equipment. Clearance is a subset of release. See in this glossary *release* and *clearance*.

353   **Upper Bound of the Gray Region (UBGR)** is the radionuclide concentration or level of

354   radioactivity that corresponds with the highest value from the range where decision errors are not

355   controlled for statistical hypothesis testing. For Scenario A the UBGR corresponds to the action

356   level. For Scenario B the UBGR corresponds to the discrimination limit. See in this glossary

357   *action level*, *discrimination limit*, *gray region*, *Scenario A*, and *Scenario B*.

358   **Volumetric Radioactive Material** is radioactive material that is distributed throughout or within

359   the materials or equipment being measured, as opposed to a surficial distribution. Volumetric

360   radioactive material may be homogeneously (e.g., uniformly activated metal) or heterogeneously

361   (e.g., activated reinforced concrete) distributed throughout the M&E.

362   **Wilcoxon Rank Sum (WRS) Test** is a non-parametric statistical tests used to evaluate

363   disposition survey results if the radionuclide being measured is present in background by

364   comparing the results to measurements performed using an appropriately chosen reference

365   material.